REMARKS

Claims 1-65 stand rejected over a variety of references. A careful review of the Office Action dated January 14, 2004 leaves Applicant to believe that the present rejections are identical to those in the previous Office Action dated October 9, 2003. Accordingly, applicant reasserts the remarks made in its response filed on November 5, 2003. In addition, Applicant will now focus on its reply to the Examiner's Response to Applicant's arguments filed November 7, 2003.

The Definition of Polypropylene

The Examiner alleges to have provided a definition of the term "polypropylene" from the Microsoft Basic Dictionary. However, the definition provided appears to have originated from the American Heritage Dictionary of the English Language, Third Edition, copyright 1992 by Houghton Mifflin Company.

The Examiner has also produced a web page that discusses "polypropylene" found at www.psrc.usm.edu/macrog/pp.htm. This web page appears to have been written by an individual named Mark Michalovic, a graduate research assistant in the Department of Polymer Science at the University of Southern Mississippi. Mr. Michalovic appears to have received a Bachelor of Science Degree in Chemistry from Milsap College in 1993.

Applicant asserts that neither of these two sources provided by the Examiner is appropriate or dispositive. The Court of Appeals for the Federal Circuit has stated that when looking for technical definitions, it is most appropriate to look to technical dictionaries that would be relied upon by those of ordinary skill in the art. Accordingly, Applicant has provided the Examiner with a more reliable source that supports the definition asserted by Applicant on page 10 of its Response filed on November 5, 2003. More specifically, Applicant has provided a copy of the relevant pages from the McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition, which defines

polypropylene as "a crystalline, thermoplastic resin made by the polymerization of propylene, C_3H_6; the product is hard and tough, resists moisture, oils, and solvents, and withstands temperatures up to 170°C; used to make molded articles, fibers, film, rope, printing plates, and toys." This definition should not be misconstrued. While the definition acknowledges that polypropylene may be "used to make" fibers, it most certainly does not state that polypropylene is inherently a fabric.

The definition of polypropylene provided by the Examiner from the American Heritage Dictionary has been taken out of context. Referring to the attachment provided by the Examiner, it appears that the American Heritage Dictionary provides two definitions for polypropylene. These definitions are set out below:

> 1. Any of various thermoplastic resins that are polymer as polypropylene. They are hard and tough, and are used to make molded articles and fibers.
> 2. The fabric of fibers made from any of these resins.

Here, the first definition is consistent with McGraw-Hill Dictionary of Scientific and Technical Terms in that the primary meaning of polypropylene is simply polymers of propylene. These polypropylene polymers may be used to make molded articles and fibers. It is improper to read the two definitions as stating that all polypropylene is a fabric of fibers.

The Examiner has asked "why is it that Applicant's polypropylene is fabric and Berlit's polypropylene is not?" (Office Action, page 10, lines 5-6). The answer is simple. Berlit's disclosure mentions the use of polypropylene, but does not specify what form the polypropylene is in. Furthermore, the context of Berlit, *i.e.* extrusion, indicates that the polypropylene is not a fabric. By contrast, Applicant has included specific claim language that indicates that the polypropylene is in the form of a fabric. Specifically, the first mention of polypropylene in Applicant's claims, occurs at claim 9, not claim 1. The relevant claims are set out below:

Claim 4. The barrier of claim 1, wherein the root-tip-trapping material is a porous fabric.
Claim 8. The barrier of claim 4, wherein the porous fabric is a spun bonded, needle punched fabric.
Claim 9. The barrier of claim 8, wherein the porous fabric is selected from polyester, polypropylene, or other olefin fiber.

In this analysis it should be clear that the reason Applicant's polypropylene is fabric is that the claim language specifically says so. In the absence of a specific statement that the polypropylene is a porous fabric, it is improper to infer that polypropylene is a fabric.

This explanation and the definition of the McGraw-Hill Dictionary of Scientific and Technical Terms, is entirely consistent with Applicant's use of the term "polypropylene" in claim 19. Claim 19 covers "[t]he barrier of claim 1, wherein the root-impenetrable material is selected from polyethylene and polypropylene." The root-impenetrable material may also be made from polypropylene, because polypropylene is not inherently a fabric. Applicant reasserts that it is the structure of the two layers that are then bonded together in accordance with claim 1 that it is patentable. The specific polymers used to make these layers, which polymers are not mentioned until claim 9, are not necessary for patentability.

The Examiner later states that "polypropylene is definitely a fabric of fibers," and that "it is inherent that polypropylene exhibit porous or fabric characteristics, so Berlit does not have to state so in his invention about the polypropylene being a fabric or not." (Office action, page 11). As previously stated, polypropylene may be formed into a fabric of fibers, but polypropylene is not inherently a porous fabric. Even so, the statement is not particularly pertinent, because claim 1 claims "a root-tip-trapping material." Applicant asserts that any inherent porosity of polypropylene would be microporous and that polypropylene does not inherently form a root-tip-trapping material.

Berlit Makes No Suggestion to Use a Root-Tip-Trapping Layer

In response to Applicant's comments, the Examiner stated that "the surface in contact with a growing medium of the root-tip-trapping material 11 in Berlit is not extruded, . . ." (Office Action page 10, lines 18-19). This statement is not true. Berlit states on page 1, line 105-107 that "[o]n top of this opaque inner layer 11 is applied by co-extrusion a decorative layer 12 as the outer layer." In Applicant's Response filed on November 5, 2003, on page 10, in the second and third full paragraphs, it is explained that the definition of *co-extrusion* is "extrusion forming of plastic or metal products in which two or more compatible feed materials are used in physical admixture through the same extrusion die." (McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition). Therefore, it is clear that the surface 11 has in fact been extruded. The Examiner's statement that "the only extruded area is between the layers" does not make sense. Berlit discloses that both the layers 11 and 12 are co-extruded, meaning that the layers (the entirety of the layers) are both extruded at the same time through the same extrusion die. Therefore, there is no basis for the Examiner to assert that roots would grow into layer 11, but not into layer 12. Both of Berlit's layers 11 and 12 would be root-impenetrable and neither layer 11 nor layer 12 would be root-tip-trapping.

Lack of Motivation to Combine Berlit and Reiger

The Examiner has attempted to provide an explanation of the motivation to combine Reiger and Berlit. However, Applicant finds that the logic of the statement is circular, and that the statement is based solely upon an assertion by the Examiner, rather than being base upon any citation to the references.

Conflict in the Teachings of Reiger and Berlit

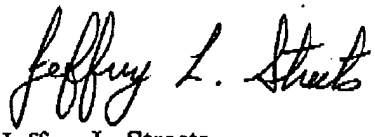
In response to Applicant's arguments that there is no motivation to combine the references due to such conflicting teachings within those very same references, the Examiner merely states that Reiger is relied upon for other reasons. However, Applicant

asserts that references must be read in their entirety including those portions that teach against the combination of the references. It is improper for the Examiner to assert only a portion of a reference and ignore the teachings of the reference as a whole.

CONCLUSION

In light of the foregoing remarks, Applicant encourages the Examiner to review the remarks made by Applicant in response to the previous office action. Because the Examiner has not changed any of the rejections, the Applicant's comments are still proper and are incorporated by reference herein. Accordingly, Applicant reasserts that the Examiner has not met his burden of establishing a prima facie case of either anticipation or obviousness of the present claims.

Respectfully submitted,



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PATENT
Atty. Dkt. WHIT/0002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Carl E Whitcomb	§	Group Art Unit: 3643
Serial No.: 10/075,096	§	
Filed: October 29, 2001	§	Examiner: Son T. Nguyen
For: Root Growth Barrier and Method	§	Via Facsimile: 703-308-2574

Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

CERTIFICATE OF TRANSMISSION
37 C.F.R. 1.8

I hereby certify that this correspondence is being facsimile transmitted to the Commissioner for Patents to the centralized fax number indicated above, to the attention of the named Examiner, on the date below.

3-10-2004 Jeffrey L. Streets
Date Signature

INFORMATION DISCLOSURE STATEMENT

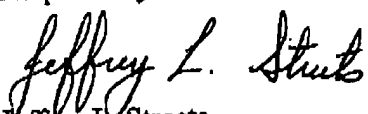
Pursuant to the duty of candor and good faith set forth in 37 C.F.R. § 1.56, the Applicant hereby discloses on behalf of individuals associated with the filing and prosecution of the present patent application information that might be material to patentability. This disclosure is presented via the enclosed Form PTO-1449.

This disclosure is not intended to constitute an admission that any information is "prior art" with respect to the presently claimed invention.

Copies of the patents and publications cited among the disclosed information are enclosed herewith, with the exception of U.S. Patents & U.S. Patent Applications the requirement for copies of which has been waived by the Office Notice of July 11, 2003 (*if the present patent application was filed after June 30, 2003*).

In the event a fee is required in connection with the enclosed Information Disclosure Statement, the Commissioner of Patents and Trademarks is authorized to charge Deposit Account No. 50-0714/WHIT/0002 for the necessary amount.

Respectfully submitted,



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Sheet 1 of 1 sheets

U.S. Department of Commerce, Patent and Trademark Office	Docket No.	Serial No.
	WHIT/0002	10/075,096
LIST OF RELEVANT ART CITED BY APPLICANT	Applicant	
(Use several sheets if necessary)	Carl E. Whitcomb	
	Filing Date	Group
	October 29, 2001	3643

U.S. Patent Documents

*Examiner Initial		Document Number	Issue Date	Name	Class	Subclass	Filing Date If Appropriate

Foreign Patent Documents

		Document Number	Date	Country	Class	Subclass	Translation Yes	Translation No

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	A	McGraw-Hill Dictionary of Scientific and Technical Terms Sixth Edition, page 423 and page 1636; Copyright © 2003, 1994, 1989, 1978, 1976, 1974 by McGraw-Hill Companies, Inc.

Examiner	Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS

Sixth Edition

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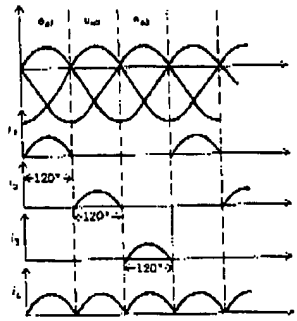
Polyodontidae [INV ZOO] A family of tubicolous, often large-bodied errantian polychaetes with characteristic cephalic and parapodial structures. { ˌpäl·ē·ō'dänt·əˌdē }
polyol *See* polyhydric alcohol. { 'päl·ēˌōl }
polyolefin [ORG CHEM] A resinous material made by the polymerization of olefins, such as polyethylene from ethylene, polypropylene from propylene, or polybutene from butylene. { ˌpäl·ē'ōl·ə·fən }
polyolefin fiber [MATER] Continuous-strand fiber made from a polyolefin. { ˌpäl·ē'ōl·ə·fən 'fī·bər }
polyoma virus [VIROL] A small deoxyribonucleic acid virus normally causing inapparent infection in mice, but experimentally capable of producing parotid tumors and a wide variety of other tumors. { ˌpäl·ē'ō·mə 'vī·rəs }
polyomino [MATH] A plane figure formed by joining a finite number of unit squares along their sides. { ˌpäl·ē'äm·ə·nō }
polyopia [MED] A condition in which more than one image of an object is formed upon the retina. { ˌpäl·ē'ō·pē·ə }
Polyopisthocotylea [INV ZOO] An order of the trematode subclass Monogenea having a solid posterior holdfast bearing suckers or clamps. { ˌpäl·ē·ōˌpis·thəˌkäd·əl'ē·ə }
polyorrhymenitis *See* polyserositis. { ˌpäl·ē·ōˌrim·ə'nīd·əs }
polyoxyalkylene resin [ORG CHEM] Condensation polymer produced from an oxyalkene, such as polyethylene glycol from oxyethylene or ethylene glycol. { ˌpäl·ēˌäk·sē'al·kəˌlēn 'rez·ən }
polyoxyethylene (8) stearate *See* polyoxyl (8) stearate. { ˌpäl·ēˌäk·sə'eth·əˌlēn ˌāt 'stirˌāt }
polyoxyl (8) stearate [ORG CHEM] A cream-colored, soft, waxy solid at 25°C; soluble in toluene, acetone, ether, and ethanol; used in bakery products as an emulsifier. Also known as polyoxyethylene (8) stearate. { ˌpäl·ēˌäk·səl ˌāt 'stirˌāt }
polyoxymethylene [ORG CHEM] $(OCH_2)_n$ A polymer of formaldehyde that has excellent mechanical and high-temperature properties. Also know as polyacetal; polyformaldehyde. { ˌpäl·ēˌäk·sē'meth·əˌlēn }
polyp [INV ZOO] A sessile cnidarian individual having a hollow, somewhat cylindrical body, attached at one end, with a mouth surrounded by tentacles at the free end; may be solitary (hydra) or colonial (coral). [MED] A smooth, rounded or oval mass projecting from a membrane-covered surface. { 'päl·əp }
polypectomy [MED] Surgical excision of a polyp. { ˌpäl·ə'pek·tə·mē }
polypeptide [BIOCHEM] A chain of amino acids linked together by peptide bonds but with a lower molecular weight than a protein; obtained by synthesis, or by partial hydrolysis of protein. { ˌpäl·ē'pepˌtīd }
polypetalous [BOT] Having distinct petals, in reference to a flower or a corolla. Also known as choripetalous. { ˌpäl·ē'ped·əl·əs }
Polyphaga [INV ZOO] A suborder of the order Coleoptera; members are distinguished by not having the hind coxae fused to the metasternum and by lacking notopleural sutures. { pō'lif·ə·gə }
polyphagous [ZOO] Feeding on many different kinds of plants or animals. { pə'lif·ə·gəs }
polyphase [ELEC] Having or utilizing two or more phases of an alternating-current power line. { 'päl·ēˌfāz }
polyphase circuit [ELEC] Group of alternating-current circuits (usually interconnected) which enter (or leave) a delimited region at more than two points of entry; they are intended to be so energized that, in the steady state, the alternating currents through the points of entry, and the alternating potential differences between them, all have exactly equal periods, but have differences in phase, and may have differences in waveform. { 'päl·ēˌfāz 'sər·kət }
polyphase meter [ENG] An instrument which measures some electrical quantity, such as power factor or power, in a polyphase circuit. { 'päl·ēˌfāz 'mēd·ər }
polyphase rectifier [ELECTR] A rectifier which utilizes two or more diodes (usually three), each of which operates during an equal fraction of an alternating-current cycle to achieve an output current which varies less than that in an ordinary half-wave or full-wave rectifier. { 'päl·ēˌfāz 'rek·təˌfī·ər }
polyphase synchronous generator [ELEC] Generator whose alternating-current circuits are so arranged that two or more symmetrical alternating electromotive forces with definite phase relationships are produced at its terminals. { 'päl·ēˌfāz 'siŋ·krə·nəs 'jen·əˌrād·ər }
polyphase transformer [ELEC] A transformer with multiple sets of primary and secondary windings on a single core; used in a polyphase circuit. { 'päl·ēˌfāz tranz'fȯr·mər }
polyphase wattmeter [ENG] An instrument that measures electric power in a polyphase circuit. { 'päl·ēˌfāz 'wätˌmēd·ər }
polyphenol oxidase [BIOCHEM] A copper-containing enzyme that catalyzes the oxidation of phenol derivatives to quinones. { ˌpäl·ē'fēˌnōl 'äk·səˌdās }
polyphenyl [ORG CHEM] Any of a group of direct colors used to dye cotton and wool. { 'päl·ēˌfen·əl }
polyphenylene oxide [ORG CHEM] A polyether resin of 2,6-dimethylphenol, $(CH_3)_2C_6H_3OH$; useful temperature range is −275 to 375°F (−168 to 191°C), with intermittent use possible up to 400°F (204°C). { ˌpäl·ēˌfen·əlˌēn 'äk·sīd }
polyphobia [PSYCH] An abnormal fear of many different things. { ˌpäl·ē'fō·bē·ə }
polyphosphazene [ORG CHEM] A high-molecular-weight, essentially linear polymer with alternating phosphorus and nitrogen atoms in the skeleton and two side groups attached to each phosphorus. { ˌpäl·ēˌfäs·fəˌzēn }
polyphosphoric acid [INORG CHEM] $H_6P_4O_{13}$ Viscous, water-soluble, hygroscopic, water-white liquid; used wherever concentrated phosphoric acid is needed. { ˌpäl·ē·fäs'fȯr·ik 'as·əd }
polyphyodont [VERT ZOO] Having teeth which may be constantly replaced. { ˌpäl·ēˌfī·əˌdänt }
polypide [INV ZOO] The internal contents of an ectoproct bryozoan zooid. { 'päl·ēˌpīd }
Polyplacophora [INV ZOO] The chitons, an order of mollusks in the class Amphineura distinguished by an elliptical body with a dorsal shell that comprises eight calcareous plates overlapping posteriorly. { ˌpäl·ē·plə'käf·ə·rə }
polyplet [MATH] A plane figure formed by joining squares either along their sides or at their corners. Also known as polyking. { 'päl·ə·plət }
polyploidy [GEN] The occurrence of related species possessing three, four, or larger multiples of the haploid set of chromosomes. { 'päl·ēˌploid·ē }
Polypodiales [BOT] The true ferns; the largest order of modern ferns, distinguished by being leptosporangiate and by having small sporangia with a definite number of spores. { ˌpäl·ēˌpäd·ē'ā·lēz }
Polypodiatae *See* Polypodiopsida. { ˌpäl·ē·pə'dī·əˌtē }
Polypodiophyta [BOT] The ferns, a division of the plant kingdom having well-developed roots, stems, and leaves that contain xylem and phloem and show well-developed alternation of generations. { ˌpäl·ēˌpäd·ē'äf·əd·ē }
Polypodiopsida [BOT] A class of the division Polypodiophyta; stems of these ferns bear several large, spirally arranged, compound leaves with sporangia grouped in sori on their undermargins. { ˌpäl·ēˌpäd·ē'äp·səd·ə }
polypore [MYCOL] Any member of the Basidiomycetes having basidia that line the numerous tubes or pores of the basidiocarp. { 'päl·ēˌpȯr }
polypropylene [ORG CHEM] $(C_3H_6)_x$ A crystalline, thermoplastic resin made by the polymerization of propylene, C_3H_6; the product is hard and tough, resists moisture, oils, and solvents, and withstands temperatures up to 170°C; used to make molded articles, fibers, film, rope, printing plates, and toys. { ˌpäl·ē·prō·pəˌlēn }
polypropylene glycol [ORG CHEM] $CH_3CHOH(CH_2OCH·CH_3)_nCH_2OH$ Polymeric material similar to polyethylene glycol, but with greater oil solubility and less water solubility; used as a solvent for vegetable oils, waxes, and resins, in hydraulic fluids and as a chemical intermediate. { ˌpäl·ē·prō·pəˌlēn 'glīˌkȯl }
Polypteridae [VERT ZOO] The single family of the order Polypteriformes. { ˌpäl·əp'ter·əˌdē }
Polypteriformes [VERT ZOO] An ancient order of actinopterygian fishes distinguished by thick, rhombic, ganoid scales with an enamellike covering, a slitlike spiracle behind the eye, a symmetrical caudal fin, and a dorsal series of free, spinelike finlets. { ˌpäl·əp'ter·ə'fȯr·mēz }
polyribosome *See* polysome. { ˌpäl·ē'rī·bəˌsōm }
polyrod antenna [ELECTROMAG] End-fire directional

POLYPHASE RECTIFIER



Graphs of transformer voltages e_{ab}, e_{bc}, e_{ca}, diode currents i_1, i_2, i_3, and load current i_4 versus time, in a three-phase half-wave rectifier.

coenotype [BIOL] An organism having the characteristic structure of the group to which it belongs. { 'sē·nə,tīp }

coenurosis [VET MED] An infestation by a coenurus, the metacestode of *Taenia* species; most common in sheep, rabbits, and other herbivores. { ˌsē·nyə'rō·səs }

coenzyme [BIOCHEM] The nonprotein portion of an enzyme; a prosthetic group which functions as an acceptor of electrons or functional groups. { kō'en,zīm }

coenzyme I *See* diphosphopyridine nucleotide. { kō'en,zīm 'wən }

coenzyme II *See* triphosphopyridine nucleotide. { kō'en,zīm 'tü }

coenzyme A [BIOCHEM] $C_{21}H_{36}O_{16}N_7P_3S$ A coenzyme in all living cells; required by certain condensing enzymes to act in acetyl or other acyl-group transfer and in fatty-acid metabolism. Abbreviated CoA. { kō'en,zīm 'ā }

coercimeter [ENG] An instrument that measures the magnetic intensity of a natural magnet or electromagnet. { ˌkō,ər'sim·əd·ər }

coercion [COMPUT SCI] A method employed by many programming languages to automatically convert one type of data to another. { kō'ər·zhən }

coercive force [ELECTROMAG] The magnetic field H which must be applied to a magnetic material in a symmetrical, cyclicly magnetized fashion, to make the magnetic induction B vanish. Also known as magnetic coercive force. { kō'ər·siv 'fōrs }

coercivity [ELECTROMAG] The coercive force of a magnetic material in a hysteresis loop whose maximum induction approximates the saturation induction. { ˌkō·ər'siv·əd·ē }

coeruleolactite [MINERAL] $(Ca,Cu)Al_6(PO_4)_4(OH)_8 \cdot 4{-}5H_2O$ A milky-white to sky-blue mineral consisting of an aluminum phosphate. { sə,rül·ē·ō'lak,īt }

coesite [MINERAL] A high-pressure polymorph of SiO_2 formed in nature only under unique physical conditions, requiring pressures of more than 20 kilobars (2 gigapascals); usually found in meteor impact craters. { 'sē,zīt }

coetaneous [SCI TECH] Contemporary. { ˌkō·ə'tā·nē·əs }

coevolution [EVOL] An evolutionary pattern based on the interaction among major groups or organisms with an obvious ecological relationship; for example, plant and plant-eater, flower and pollinator. { ˌkō,ev·ə'lü·shən }

coextrusion [ENG] Extrusion-forming of plastic or metal products in which two or more compatible feed materials are used in physical admixture through the same extrusion die. { ˌkō,ik'strü·zhən }

cofactor [BIOCHEM] A specific substance required for the activity of an enzyme, such as a coenzyme or metal ion. *See* minor. { 'kō,fak·tər }

coffee [BOT] Any of various shrubs or small trees of the genus *Coffea* (family Rubiaceae) cultivated for the seeds (coffee beans) of its fruit; most coffee beans are obtained from the Arabian species, *C. arabica*. { kȯf·ē }

cofferdam [CIV ENG] A temporary damlike structure constructed around an excavation to exclude water. [NAV ARCH] A void between two bulkheads designed to separate two adjacent liquid-containing compartments. { 'kȯ·fər,dam }

coffered ceiling [BUILD] An ornamental ceiling constructed of panels that are sunken or recessed. { 'kȯ·fərd 'sēl·iŋ }

coffin [NUCLEO] A box of heavy shielding material, usually lead, used for transporting radioactive objects and having walls thick enough to attenuate radiation from the contents to an allowable level. Also known as cask; casket. { 'kȯ·fən }

coffin corner [AERO ENG] The range of Mach numbers between the buffeting Mach number and the stalling Mach number within which an aircraft must be operated. { 'kȯ·fən ˌkȯr·nər }

coffinite [MINERAL] $USiO_4$ A black silicate important as a uranium ore; found in sandstone deposits and hydrothermal veins in New Mexico, Utah, and Wyoming. { 'kȯf·ə,nīt }

cofinal [MATH] A subset C of a directed set D is cofinal if for each element of D there is a larger element in C. { kō'fīn·əl }

cog [DES ENG] A tooth on the edge of a wheel. [ELEC] A fluctuation in the torque delivered by a motor when it runs at low speed, due to electromechanical effects. Also known as torque ripple. { käg }

cog belt [MECH ENG] A flexible device used for timing and for slip-free power transmission. { 'käg ˌbelt }

cogeneration [MECH ENG] The simultaneous on-site generation of electric energy and process steam or heat from the same plant. { ˌkō,jen·ə'rā·shən }

cogged belt *See* timing belt. { 'kägd ˌbelt }

cogging [ELECTROMAG] Variations in torque and speed of an electric motor due to variations in magnetic flux as rotor poles move past stator poles. { 'käg·iŋ }

cogging mill *See* blooming mill. { 'käg·iŋ ˌmil }

cognac [FOOD ENG] Brandy distilled from grapes grown mostly in the Charente and Charente-Maritime departments of France. { 'kōn,yak }

cognac oil *See* ethyl enanthate. { 'kōn,yak ˌȯil }

cognate [GEOL] Pertaining to contemporaneous fractures in a system with regard to time of origin and deformational type. { ˌkäg,nāt }

cognate ejecta [GEOL] Essential or accessory pyroclasts derived from the magmatic materials of a current volcanic eruption. { ˌkäg,nāt ē'jek·tə }

cognate inclusion *See* autolith. { ˌkäg,nāt in'klü·zhən }

cognition [PSYCH] The act or process of knowing, including comprehension, judgment, memory, perception, and reasoning. { käg'nish·ən }

cognitive-behavioral therapy [PSYCH] A form of psychotherapy that focuses on changing dysfunctional attitudes into more realistic and positive ones and providing new information-processing skills. { ˌkäg·nə·tiv bə'hav·yə·rəl 'ther·ə·pē }

cognitive dissonance [PSYCH] Psychological conflict that results from incongruous beliefs and attitudes held simultaneously. { ˌkäg·nəd·iv 'dis·ən·əns }

cognitive mapping [PSYCH] A group of mental processes that involve acquisition, coding, storing, manipulation, and recall of spatial information. { 'käg·nəd·iv 'map·iŋ }

cognitive therapy [PSYCH] A method of psychological treatment that emphasizes changing a person's maladaptive processes of thinking, perceptions, and attitudes. { 'käg·nəd·iv 'ther·ə·pē }

COGO [COMPUT SCI] A higher-level computer language oriented toward civil engineering, enabling one to write a program in a technical vocabulary familiar to engineers and feed it to the computer; several versions have been implemented. Derived from coordinated geometry. { 'kō,gō }

cogon [BOT] *Imperata cylindrica*. A grass found in rainforests. Also known as alang-alang. { kō'gōn }

cog railway [CIV ENG] A steep railway that employs a cograil that meshes with a cogwheel on the locomotive to ensure traction. { 'käg ˌrāl,wā }

cog region [BIOCHEM] Any group of similar sequences of nucleotides that occurs in deoxyribonucleic acid molecules and may specifically be recognized by endonucleases or other enzymes. { 'käg ˌrē·jən }

cogwheel [DES ENG] A wheel with teeth around its edge. { 'käg,wēl }

cogwheel ore *See* bournonite. { 'käg,wēl ˌȯr }

cohenite [MINERAL] $(Fe,Ni,Co)_3C$ A tin-white, isometric mineral found in meteorites. { 'kō·ə,nīt }

cohered video [ELECTR] The video detector output signal in a coherent moving-target indicator radar system. { kō'hird 'vid·ē·ō }

coherence [PHYS] 1. The existence of a correlation between the phases of two or more waves, so that interference effects may be produced between them, or of a correlation between the phases of part of a single wave. 2. Property of moving in unison, such as is characteristic of the particles in a synchrotron. { kō'hir·əns }

coherence area [OPTICS] A quantitative measure of the spatial coherence of a light beam, equal to the largest cross-sectional area such that light passing through any two pinholes placed in this area will produce interference fringes. { kō'hir·əns ˌer·ē·ə }

coherence distance *See* coherence length. { kō'hir·əns ˌdis·təns }

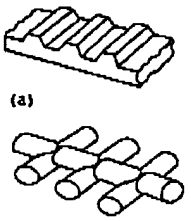
coherence length [PHYS] For a beam of particles, the typical length of a wave packet along the beam; the more monochromatic the beam, the greater its coherence length. [SOLID STATE] A measure of the distance through which the effect of any local disturbance is spread out in a superconducting material. Also known as coherence distance. { kō'hir·əns ˌleŋkth }

coherence time [PHYS] The average time required for the

COFFEE

Branch of *Coffea arabica*.

COG BELT



(a)

(b)

Cog belts for various uses. (a) Flat belt for timing or high-speed power transmission. (b) Projections integrally molded with self-lubricating plastic belt for engaging gears from either side and twisting to mesh with misaligned gears.